

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A user interface designing apparatus, comprising:
state set editing means for adding/deleting states of a composite display part having a plurality of states, wherein the composite display part is displayed to a user as part of a user interface designed by the user interface designing apparatus;
event handling editing means for ~~describing~~ editing event handling for a state transition in each of the states of the composite display part;
elementary display part storing means for storing elementary display parts designed previously; ~~and~~
state display editing means for adding/deleting elementary display parts to be displayed in each of the states of the composite display part, for adding/deleting another composite display part in each of the states of the composite display part, and for hierarchically combining the composite display parts; and
composite display part storing means for storing the composite display parts as designed, wherein said state display editing means is arranged to add/delete another composite display part as designed.

Claim 2 (Cancelled).

3. (Previously Presented) The user interface designing apparatus according to claim 1, wherein said state set editing means groups several states of the composite display part in a grouped state, and edits, en bloc, the display parts which are commonly displayed in the grouped state.

4. (Previously Presented) The user interface designing apparatus according to claim 1, wherein

said state set editing means is arranged to group several states of the composite display part in a grouped state, and

said event handling editing means edits, en bloc, the event handlings which are common in the grouped state.

5. (Previously Presented) The user interface designing apparatus according to claim 1, wherein the elementary display part stored in said elementary display part storing means has properties corresponding to size, position, external appearance, and behavior, and further comprising property editing means for editing the properties of the elementary display part added to each state or group of states of the composite display part.

6. (Currently Amended) The user interface designing apparatus according to claim 5, further comprising composite display part property setting means adding/deleting the properties representative of behaviors of the composite display part, wherein said property editing means edits the properties of the composite display part added to each state or group of states of ~~said~~ the composite display part.

7. (Previously Presented) The user interface designing apparatus according to claim 5, wherein said property editing means describes the properties of the elementary display part or, alternatively, the composite display part by referencing values of the properties of another elementary display part or, alternatively, the properties of another composite display part.

8. (Previously Presented) The user interface designing apparatus according to claim 5, wherein said state display editing means displays, graphically, disposition of the elementary display part or, alternatively, the composite display part in each state

or group of states of the composite display part while editing, graphically, properties and information concerning layout, such as size or dimension or inter-part relation, through direct manipulation with an input device.

9. (Previously Presented) The user interface designing apparatus according to claim 5, wherein said state display editing means displays, graphically, disposition of the elementary display part or, alternatively, the composite display part in each state or group of states of the composite display part while editing, graphically, properties and information concerning layout, inclusive of size or inter-part relation through direct manipulation with an input device or, alternatively, by activating directly a corresponding one of said property editing means.

10. (Currently Amended) The user interface designing apparatus according to claim ~~2~~ 1, further comprising simulation means for simulating behavior of the composite display part stored in said composite display part storing means in conformance with manipulation input activated through an input device.

11. (Previously Presented) The user interface designing apparatus according to claim 10, further comprising virtual display part storing means for storing virtual display parts having functions realized virtually by said simulation means.

12. (Currently Amended) The user interface designing apparatus according to claim 10, wherein said event handling editing means sets a virtual event and edits ~~an~~ event handling for the event, and said simulation means issues the event, virtually, through an input/output device to simulate the processing for the virtual event issued, with a relevant composite display part.

13. (New) A user interface apparatus comprising:
input means for receiving information from an input device;

display means for displaying a user interface of a design subject apparatus on a display device;

elementary display part storing means for storing elementary display parts designed previously as a part to be displayed at the user interface of the design subject apparatus;

composite display part storing means for storing composite display parts, wherein each composite display part defines dispositions of the elementary display part and another composite display part which are displayed in each of states of the composite display part; and

simulation means for simulating size, position, external appearance, and behavior of the composite display stored in the composite display part storing means, based on the information received from said input means, to display the user interface at the display device, wherein

the composite display part has an event handler making a transition between the states and performing a process based on the states and the information received from said input means in each of the states of the composite display part,

said composite display part storing means stores the composite display part made by hierarchically combining the elementary display part and another composite display part to be displayed in each of the states of the composite display part, and

said simulation means for, when the composite display part stored has the elementary display part to be displayed, displaying the elementary display part, and, when the composite display part stored has the other composite display part to be displayed, for repeating processes with respect to the other composite display part to simulate the size, position, the external appearance, and the behavior of the composite display part stored.

14. (New) The user interface apparatus according to claim 13, wherein

the elementary display part stored in said elementary display part storing means and the composite display part stored in said composite display part storing means have properties which correspond to the size, the position, the external appearance, and the behavior of the elementary display part and the composite display part, and

the composite display part stored in said composite display part storing means includes the composite display part having the properties of the elementary display part and the composite display part added in each of the states of the composite display part, and the composite display part has the properties corresponding to the behavior of the composite display part.

15. (New) The user interface apparatus according to claim 14, wherein the properties of the elementary display part and the composite display part are described by referring to the properties of another elementary display part and another composite display part, and

when the properties of the elementary display part and/or the composite display part refer to the properties of another elementary display part and/or another composite display part, said simulation means refers to the properties of the another elementary display part and/or the another composite display part.

16. (New) A computer program for a user interface apparatus stored in a recordable medium and controlling a computer to:

receive information from an input device;

display a user interface of a design apparatus on a display device;

store elementary display parts designed previously as a part to be displayed at the user interface of the design apparatus;

store composite display parts, wherein each composite display part defines dispositions of the elementary display part and another composite display part which are displayed in each of states of the composite display part; and

simulate size, position, external appearance, and behavior of the composite display part stored, based on the information received from the input means, to display the user interface at the display device, wherein

the composite display part has an event handler making a transition between the states and performing a process based on the states and the information received from the input means in each of the states of the composite display part,

the composite display part stored is made by hierarchically combining the elementary display part and another composite display part to be displayed in each of the states of the composite display part, and

when the stored composite display part has the elementary display part to be displayed, the elementary display part is displayed, and, when the stored composite display part has the other composite display part to be displayed, repeating processing with respect to the other composite display part to simulate the size, the position, the external appearance, and the behavior of the composite display part stored.